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In the Author's hand copy

REMARKS

ON THE

EMPLOYMENT OF ANÆSTHETIC AGENTS

IN

MIDWIFERY.

BY

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“ Let me have

A dram of poison ; such soon-spreading geer
As will disperse itself through all the veins,
That the life-weary taker may fall dead :
And that the trunk may be discharged of breath
As violently, as hasty powder fir'd
Doth hurry from the fatal cannon's womb.”

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“ In everything which relates to the act of parturition, Nature not disturbed by disease, and unmolested by interruption, is fully competent to accomplish her own purpose ; she may be truly said to disclaim and to abhor assistance. Instead, therefore, of despairing and thinking they are abandoned in the hour of their distress, all women should believe, and find comfort in the reflection, that they are at those times under the peculiar care of Providence ; and that their safety in childbirth is ensured by more numerous and powerful resources than under any other circumstances, though to appearance less dangerous.”—DENMAN.

IN calling attention to the circumstances recorded in the following pages, I offer no argument against the use of anæsthesia during the performance of surgical operations. I have confined my objections entirely to its employment in midwifery, and especially during natural parturition.

In surgery, it is of the utmost value ; it saves life as well as suffering, by causing persons to submit to operations who otherwise would not have consented to their performance at all ; and it prevents that delay in consenting which so frequently rendered the performance of them of no avail ; and in those cases of extreme emaciation, in consequence of diseased joints and other affections that are brought into hospitals in the last stages, the surgeon is now able to operate, the exhaustion consequent upon the pain endured being in most instances prevented.

There is this difference between the use of it in surgery and in midwifery ; in the one, a few minutes' inhalation only is necessary ; in the other, a prolonged effect must be kept up, in order that pain may be allayed ; there is, therefore, a decided source of danger in the one that is not to be found in the other, and it is this prolongation of its effect that forms the principal hazard.

I do not, however, intend to imply that there is no danger in the use of etherization in surgery, far from it, there is great hazard to life if complete insensibility to pain is produced ; but the immediate removal of the agent, when this state is completed,

makes the patient less liable to death than if the inhalation is persisted in longer ; but when it is remembered that there were many persons who preferred death to the removal of a limb, it cannot be esteemed unjustifiable to use even persuasion towards patients suffering from disease to be cured by operation, and which otherwise would prove fatal, in order to induce them to submit to etherization, although the risk to life might be imminent from so doing ; the case, however, is very different when there is no danger to life from disease, but when the simple motive of allaying the pain of natural parturition is the reason for urging the employment of etherization : in the one instance it is worth while to risk life by inhalation ; in the other, an unjustifiable act is committed which no excuse can palliate. If it were wanting to exemplify the danger of etherization in surgery, even under the most favourable circumstances, allusion to some of the cases which have terminated fatally, and to others attended by casualties which are hereafter referred to, would be sufficient. It is probable, however, that amongst the latter, imminently as it was hazarded, life was eventually preserved by etherization.

I have been induced to make the statements contained in this pamphlet, in order that certain wrong impressions regarding the subject of it might be corrected, and that those who, from not living in the metropolis, have been impressed with the belief that it is commonly employed there in midwifery might be undeceived upon the subject. I have been more anxious to make this known since the visit of a gentleman in extensive practice in the country, who called upon me to make inquiries concerning the employment of anæsthesia in parturition, and to ask me whether it really was as freely used in London as it was supposed to be by many, and as was insinuated by different authors who have written concerning it.

Since the first introduction of etherization, everything likely to captivate the public feeling, and nothing tending to create alarm, has been put forward ; and I freely assert my belief that no woman who has yet been etherized has been fairly warned of her danger, or indeed of any of the ill-consequences of the state of narcotism. Let us hope that none will hereafter be

“ Like him that knew not poison’s power to kill
Until, by tasting it, himself was slain.”

An idea prevails that a "snoring sleep" supervenes, and no more; no notion is entertained of the numerous casualties that may occur; no caution is given by the advocates of anæsthesia; but patients are recklessly brought into a condition having between it and death the very narrowest limits; this fact will be found clearly proved by evidence not to be contradicted.

The introduction of etherization has given rise to a system of writing, not for the benefit of professional men, but to captivate the public at large; and it is much to be regretted that men of talent should permit themselves to be entrapped in a snare which inevitably will lead to their destruction. The word "quackery," in conjunction with etherization during parturition, now so frequently used by people of standing and education, sufficiently indicates the feeling that prevails with regard to its employment.

A feature deserving of censure is to be found in the reports of many of the cases of labour in which chloroform has been used,* evidently intended to cause a belief in advantages to be derived from this agent which in fact it does not possess. I refer to the way in which the symptoms attending a second or third delivery are compared with those accompanying the first. To unprofessional readers, this has its effect, and a pregnant woman who, with her first child may have been forty hours in labour, will at once rejoice at the supposition that the inhalation of chloroform will prevent the recurrence subsequently of so protracted a labour. She is ignorant of the fact that a severe labour is generally followed in subsequent pregnancies by a comparatively painless and much more expeditious delivery.

Many instances might be quoted to show to what I allude. Thus it is said by an author on anæsthesia, in relating a case of labour:—"A second labour, &c.—child was expelled in fifty minutes, &c.;"

* I have made no direct distinction between the cases in which sulphuric ether has been employed, and those in which chloroform has been the agent; the effects are found to be the same; the former, however, being esteemed the least dangerous, owing to the more gradual supervision of its influence. No greater mistake, perhaps, has been made than in recommending a preference for chloroform in parturition because of its more speedy effect, a reason of all others for discarding it in favour of any more slowly acting agent.

—“ In her first or preceding confinement she had been in severe labour for twenty hours, followed by flooding; no hæmorrhage on the present occasion,”—thus leaving the unprofessional reader to suppose that the inhalation expedited delivery, and that it prevented flooding; to those experienced, however, it would be known that no such effects could be attributed to it. It is not at all necessary, that because hæmorrhage has occurred in one labour—a first and a protracted delivery—it should again happen to the same patient in subsequent confinements.

In another case, recorded by Dr. Simpson,* a manipulation peculiar to himself is said to have induced such action of the uterus as to render unnecessary the use of the forceps, which he “ had the conviction ” would have been ultimately required, provided he had not been able to have interfered in the manner described.

This process must, under ordinary circumstances, have been a cruel one, and it is to be trusted that many patients were not subject to it before the introduction of etherization :—“ I might, it is true,” says Dr. Simpson, “ have followed the same proceeding, though the patient was not in an anæsthetic state, but I could not have done so *without inflicting great agony on her.*” Now as forceps do not necessarily inflict great agony when properly applied, it would be inferred that patients would prefer their use to the treatment of Dr. Simpson.

I own I think Dr. Simpson mistaken. I do not imagine that any increased uterine action could possibly follow manipulation of the perineum and vagina, which is said to have prevented the necessity for the forceps. If it had this effect in the case alluded to, it is evident that the reflex function was not controlled by etherization, and as insensibility to pain denotes paralysis of the spinal cord and cessation of the reflex function, it is evident that Dr. Simpson must be mistaken, either in supposing the patient to be completely etherized and insensible to pain, or in thinking that his manipulation caused the uterine action to be increased; for the reflex function and true insensibility to pain could not co-exist.

Another case is related in which three attempts were made to apply the long forceps, and three times, if I rightly remember, a failure attended these attempts; the child was therefore

* Of Edinburgh.

turned. It is stated that "her first child was delivered by embryulcia; the second, by the long forceps; the third was small and passed without artificial assistance." It would be inferred by the unprofessional reader that the inhalation caused a successful issue in this case; but it seems to me that the "embryulcia" in the first instance must have been totally unnecessary, as proved by the passage subsequently by means of the long forceps of a living child, and in the labour recorded by Dr. Simpson of a living child by turning.

In another case, the losing a "measured" quantity of blood—the "sleeping" through it—the being perfectly well on the third day—and insisting on leaving the hospital in ten days—are circumstances not at all extraordinary after the use of the forceps, with the exception of the last, which decidedly should not have been permitted; the question arises, why are these trivial facts mentioned? surely not to meet the professional eye!

There are similar cases published by other authors. One is curious;—a woman is in labour, the child presents with the feet, they and the body are expelled, the head is retained; some ergot is given and repeated, afterwards ether is inhaled, presently the head is expelled, and it is at once attributed to the ether.

I cannot help thinking an attempt should have been made to assist the birth from the first, and a very slight effort on the part of the practitioner would have been followed by the immediate escape of the foetal head. In this case there were certainly no just grounds for the use of the ether.

Another case appears interesting, for in that, by a happy coincidence, instead of the uterine contractions being increased, they were diminished,—it was a case of turning, in which the uterine fibres were so relaxed, that it was performed "with perfect ease."

A case is also recorded, being supposed to favour the use of etherization, but in which there is clear evidence of delay in the birth of a child owing to its employment; the uterus alone was left to expel it, and it had not the power to do so speedily, unassisted by the voluntary action of the abdominal muscles.

Another writer, in reporting a case of labour in which the ergot was first given, and then ether inhaled, says, "The uterine efforts were unchecked by the use of the ether; and it was remarkable that whilst the abdominal muscles continued their contractions, as under ordinary circumstances, the usual expiratory

exclamations were altogether absent ; so that the child was born without those signs of great muscular exertion, which are so well known to characterize the ungovernable straining exertions of the mother to expel the child's head or presenting part."

This gentleman, as an advocate of anæsthesia in midwifery, cannot be aware that he contradicts himself here, and it is to show how vague are the theories concerning anæsthesia and its effects during parturition, that I have quoted these words. According to the action of the inhalation of ether attributed to it in another case reported by him, it certainly ought not to have been surprising that it did not check the uterine efforts, for he said in that case that it increased the uterine action. He then says there was an absence " of the ungovernable straining exertions," and yet that the abdominal muscles continued their contractions ; it may be asked what are the straining exertions but the voluntary expulsive action of the abdominal muscles ? and allowing that the inhalation of ether did check the straining exertions, I affirm that a power purposely given to parturient women, was unjustifiably interfered with.

Then there are cases of convulsions reported, all cured by ether and chloroform, but in all bleeding and other remedies had first been actively employed. Some details of cases have been given to me of the wonderful effects of these agents, which have caused me much amusement. But I cannot believe that I heard a true statement of facts,—I am inclined to think that no professional man would expose himself to ridicule by stating to his patients circumstances which by no possibility could ever have occurred. When, however, statements appear in print by authors upon whom reliance may be placed in their own belief in them, but which allude to circumstances that never could have happened, it cannot be surprising that others should follow their example, and persuade themselves that they have witnessed much more extraordinary actions of these agents than the practitioners who boast that they have introduced them. Each succeeding author has observed some more wonderful effect than his predecessor.

In considering that etherization is said by some to relax uterine contraction, by others to increase it ; by some that a full effect must be produced in order to allay pain, by others only a partial effect ; by many, that it will cure convulsive attacks, while it has been distinctly proved to induce them ; by some, that it will ac-

celerate labour, by others, that it retards it ; by many, that it saves foetal life, while it probably tends to endanger and destroy it ;—in considering these circumstances, that they are put forward by the advocates of anæsthesia, and the very opposite effects are attributed to etherization by the same authors in many instances, it will necessarily be inquired in whom can we rely for evidence, and is the practice of those who have expressed such unstable opinions, that which we should be induced to follow. But an attempt has been made to introduce the most pernicious of all doctrines. I allude to the endeavour to persuade women that they have a right to insist upon the use of chloroform during their delivery, and that their attendant is to have no voice in the matter, however great his responsibility. Whatever may happen elsewhere, this will never be the case in this metropolis.

Patients will seldom administer to themselves even the most ordinary remedies, without asking their medical attendant whether it is right they should do so ; and yet we were told that we should not be able to choose for ourselves, for all women would insist upon the use of chloroform in parturition : time has proved the contrary, and perhaps a stronger feeling was never evinced against anything medicinal which for the moment had excited public attention, than is shown by the great body of English women against the innovation that has been attempted to be forced upon them.

Better feelings than a desire to avoid bearable pain at the risk of life, and perhaps to the detriment of their offspring, exist in their minds, and all the false assertions of royal favour, all the exhibitions of the wonders of etherization, all the fascinating promises concerning it, have had no other effect than that of giving rise to the constant exclamation, “ I will not,” instead of I will inhale chloroform during my confinement.

That a false step has been made by some practitioners, we have reason to know has been discovered ; and let him who seeks to obtain a high position in his profession, refrain from running after phantoms. “ He will be taught that although he may acquire momentary approbation by endeavouring to remove every little present inconvenience, that diseases then far distant, will be attributed to his misconduct, and sometimes not without reason.” *

* Denman.

But a practice has been adopted, and I regret to have observed it in those to whom I should have given the credit of valuing their own position more highly,—it is that of persuading women who have objections to the use of anæsthesia, to go through the ceremony of pretended inhalation for a minute or two at the end of their labours. This has occurred to persons known to myself, and at first I was astonished, after the expressions of disgust for the system altogether that had fallen from them previously to their confinements, to find that they had consented to employ it. But I soon learnt the truth; they, poor things, had evinced no desire for inhalation, but the opportunity had been taken at the moment of the expulsion of the foetal head to gain them over to the use of it,—a moment of greater suffering than they previously had endured, and one seized upon, therefore, to overcome conscientious scruples, and to impose upon them that for which they had hitherto felt the utmost repugnance. But, it will be said, what motives can influence a practitioner to coerce the use of etherization, if a woman is willing to suffer pain?—and justly it would seem, might this question be asked,—but the object has been made palpable,—it is for the purpose of the publication of these patients' names afterwards amongst those who have been etherized, and although they have received the vapour merely by smelling to it lightly—and this has been done for a few seconds only—although they themselves have said that their pain was not mitigated by it, (and how should have it been?)—yet they have been quoted afterwards, particularly if persons of distinction, as having not only inhaled the vapour of chloroform, but as having been relieved of all pain in consequence of it.

I am induced thus to notice this objectionable system; I can have no motive for doing so, except the desire to make public the acts of those, who endeavour to persist in the use of etherization, and to guard the unwary against putting too much faith in its effects, for they should know that these

“ways

That seem like prudent helps are very poisonous.”

The effects of the inhalation of ether and chloroform are thus described by Dr. Snow ; and in freely using his name as an authority with regard to these agents, I do so without any apprehension of his opinions being doubted, well known as he is to professional men as one of the most experienced of all who have exhibited them—the most free from any impartial bias, either in favour of, or against their employment, and as the only author, with but one or two exceptions, who has fairly placed before the public a true statement of facts concerning anæsthesia.

He divides the effects of ether and chloroform into five different degrees. In the first, “there is exhilaration, or altered emotions and sensations of some kind ; but the patient still retains consciousness and volition. In the second degree, the mental faculties may still be performed, but only in an irregular manner : there may be ideas of a dreaming kind, and voluntary efforts in accordance with them ; or the patient may be passive. When mental excitement occurs, it is chiefly in this degree in which the functions of the cerebral hemispheres seem to be impaired, but not yet abolished. In the third degree, these functions appear to be totally suspended ; but those of the spinal cord and its nerves still continue to some extent. In the fourth degree, no movement is obvious except that of respiration, which is unaffected by external impressions, and goes on regularly, though often with snoring, or even some degree of stertor. It would seem that the *whole nervous centres are paralysed by the vapour*, except the medulla oblongata. In killing animals with vapours, I have observed the breathing to be difficult, or feeble, or otherwise impaired, before it finally ceased. This stage I call the fifth degree.”

In considering the first degree, it is manifest that a direct stimulus is applied to the system, and to the brain more especially ; and to those who already have become influenced by the excitement incident to pregnancy, how necessarily hurtful must be this addition to it !

It was the opinion of Dr. Denman, the correctness of which daily experience goes to prove, that “the female constitution becomes infinitely more irritable than usual in consequence of the changes made in the uterus during pregnancy;” and “that in a constitution become unusually irritable from one cause, any additional cause of morbid irritation must often produce different and more violent effects, than if that constitution had been at rest, before the application of the second cause.” Hence, then, it is evident that even in this the first and most feeble effect of anæsthetic agents, there is reason for its non-employment.

It is in this degree that uterine action becomes momentarily increased; and hence has arisen the false praises bestowed on etherization as an agent for stimulating the uterus to action; but until the after effects are produced by prolonged inhalation, no immunity from pain is derived. It would be better, therefore, to exhibit ammonia, brandy, or wine, in cases where stimulants are required, rather than use the complicated employment of stimulating vapours.

The second degree bears with it the very strongest arguments against its ever being induced during parturition. I do not hesitate to assert, that if women (Englishwomen) were put in possession, as they ought to be, of what the “ideas of a dreaming kind” consist in many instances, and what were the “voluntary efforts in accordance with them,” that were made in more than one instance, before numerous witnesses, they would undergo even the most excruciating torture, or, I believe, suffer death itself, before they would subject themselves to the shadow of a chance of exhibitions such as have been recorded; and the case related by Baron Dubois, in which the patient drew an attendant to her to kiss as she was in this second stage of narcotism, proved by her confessions afterwards, the peculiar effects that follow inhalation. This is not an argument derived from one or two instances recorded: there has been quite sufficient proof, both in the male and female subject, that this peculiar species of excitement is a distinct effect of the second degree of inhalation of both ether and chloroform; and Dr. Tyler Smith, in an able paper in the *Lancet*, in noticing these circumstances, refers to them thus:—“I may venture to say, that to the women of this country, the bare possibility of having feelings of such a kind

excited, and manifested in outward uncontrollable actions, would be more shocking even to anticipate, than the endurance of the last extremity of physical pain." He adds, that it has been reserved "for the phenomena of etherization to show," that as regards these sensations, in connection with parturition, the human female may "approach to the level of the brute creation." "Chastity of feeling, and, above all, emotional self-control, at a time when women are receiving such assistance as the accoucheur can render, are of far more importance than insensibility to pain."

The facts here alluded to I do not think it right to relate in detail. It is sufficient to say, that they are unfit for publication in a pamphlet that may fall into the hands of persons not belonging to the medical profession. I will assure those readers that they would create disgust unequalled by any other occurrence in life; and that the bare thought of their relatives or themselves (if females) having been subjected to any such revolting influences, would make them afterwards almost shrink from the observations of the world.

No further argument is necessary in order to demonstrate the impropriety of inducing this second degree of narcotism during parturition.

In the third degree of narcotism, most important symptoms arise; the functions of the cerebral hemispheres "appear to be totally suspended, but those of the spinal cord and its nerves still continue to some extent:" and in this state the occurrence of convulsions is not at all unfrequent, to which all pregnant women are predisposed, which is always esteemed an alarming affection under ordinary circumstances, and when to the existing predisposition is added a direct promoter of the disease, the most biassed reasoner must admit, however he may desire to conceal the fact from himself, that the lives of those pregnant women who are subject to etherization, are in all cases imminently hazarded.

Whether, in the third degree, the spinal marrow is stimulated simply by the congested condition of its blood-vessels—whether by means of its reflex function, or whether by the peculiar state of the blood supplied to it at the time of inhalation, is really of very little consequence as far as the ultimate effect is concerned; spasmodic action of the muscles usually under the control of the

will is the consequence, accompanied by stertorous breathing, and followed by coma.

The following cases, although only a very small number of those that are recorded, will show the agency of etherization in producing convulsions.

Mr. Hird related to the Medical Society of London, the "case of a gentleman who was submitted to the action of ether previous to the extraction of a tooth." "Soon after, his face became flushed, his lips purple, his temporal arteries enlarged, and there was altogether so much excitement, that his attendant was alarmed. The tooth, however, was extracted, but convulsions supervened, attended by slight stertorous breathing, and other symptoms of an alarming character. He gradually recovered, but suffered from the effects of the agent for some time after."

Dr. Waller related to the same Society the case of a gentleman on whom ether produced such "violent coughing, spitting, contracted pupil, rapid pulse, and incipient convulsions, that it was necessary to desist with the inhalation."

In the Hospital St. Louis, a patient of M. Malgaigne "inhaled ether for two or three minutes, when he became in a state which can only be compared to drunkenness." "On the termination of the operation" (opening a phlegmonous abscess) "he appeared agitated, his face was red, his features contracted, his eyelids closed, and, in short, his whole muscles, particularly those of the face and superior extremities, exhibited symptoms of abnormal contraction." "He had undoubtedly lost his reasoning power, for his *côduct* was most outrageous. He closed his eyes and foamed at the mouth."

Mr. Hancock related some cases at a meeting of the Westminster Medical Society, "in which the vapour of ether had been inhaled with the effect, in one instance, of producing convulsions; and, in another, of causing irritation of the throat, which remained until the patient, who was previously in a low condition, died."

"Convulsions" are said by Dr. Nevins* to be "very frequent," and he used the term "*very*," advisedly, because they had often been reported to him. In one or two reports, it was said, "nearly

* "On the present state of our Knowledge with respect to the Uses and Effects of Chloroform," a paper read at the Liverpool Medical Society.

all the patients operated upon were more or less convulsed ;” and in some instances, this had rendered the operation almost impracticable. In a case of tying the brachial artery, the muscles of the arm were so violently affected, that the vessel could scarcely be gained, and the accompanying veins were so swollen and turgid, as to obscure it even when exposed, rendering the operation very unsatisfactory.” In another case, “it required the vigorous efforts of four persons to hold the patient.” Dr. Nevins adds—“In many cases, they (the convulsions) were accompanied by frothing at the mouth.” He also related the case of a young woman with her first child, to whom ether was given, which was afterwards ascertained not (even) to have been of the full strength, “who had severe convulsions, beginning about ten hours after labour was completed. By bleeding and the ordinary treatment, she was ultimately cured.”

Mr. Kay mentioned a case in which the use of the short forceps was required ; but after the exhibition of chloroform vapour, “the patient’s convulsive movements were so violent that he was obliged to wait until the effects of the chloroform had gone off before he could apply them.”

Mr. Roche related a similar case, and he thought “the recent fatal case might not be without benefit ; for he had been called to attend a young lady during her first confinement, and found her busy inhaling chloroform on his arrival, of which she had obtained a supply spontaneously, and which she had been practising upon for a day or two to see how it answered. If patients began to take it into their own hands in this way, we must expect to hear of more fatal consequences.”

Baron Dubois shows, in a paper read by him at the Academy of Medicine in Paris, the extreme importance he attaches to this effect of ether and chloroform of producing convulsive affections, as regards their use in midwifery ; he says,—“On examining the question of the effects of ether on the mother, we find arguments of a special nature, drawn from facts already noticed during the inhalation of ether in other circumstances. Cases have been known in which the precursory signs of ebriety have consisted in an involuntary, disorderly, and convulsive agitation of that muscular system subservient to volition ; in some cases, also, the ebriety from ether has been itself characterized by a semi-epi-

leptic, a semi-cataleptic state, and has either been preceded by, or accompanied with, or followed by, convulsions." "Now if through life we look for a physiological condition in which there may exist a predisposition to phenomena of that kind, we shall find that pregnancy itself but too commonly, indeed, predisposes women to that sort of nervous excitement *which is sometimes carried so far as to be fatal to them*. I allude to the fact of puerperal convulsions."

Mr. Beales has reported the case, in the Medical Times, of a patient "whose expression of countenance and hasty manner" after delivery, under the influence of chloroform, "induced her friends to seek medical aid." "Twenty-four hours after delivery, I arrived at the patient's house," writes Mr. Beales; "upon entering her bedroom I distinctly heard a peculiar hissing noise proceeding from the patient. She was in bed, being detained there by the efforts of four women. There were violent convulsive actions of both extremities, and the muscles of the face were under the same influence. The tongue was protruded from the mouth, and foam was abundant. The face and neck were swollen with increased carotid action. The eyes were starting forwards, rolling about, and having a peculiar wildness in expression: the pupils dilated and influenced by light: the head very hot: the state of the pulse could not be ascertained, owing to the violent action of the arms. In the absence of any hysterical symptoms, I diagnosed the case as one of puerperal convulsions after delivery. Twenty ounces of blood were immediately drawn in a full stream; an ipecacuanha emetic given; the hair was cut off, and cold assiduously kept to the head; sinapisms to both calves. In about an hour she became more quiet, the convulsions occurring only at intervals: the pulse was ascertained to be 110, of largish calibre; the pupils became contracted; the breathing was stertorous. Her state resembled the apoplectic. A large blister was applied to the nape; ten grains of calomel, six grains of camphor, and two drops of croton oil were given, which had the effect of producing some copious evacuations. After twelve hours' elapse, coma still being present, eighteen ounces more blood were withdrawn, and the frigid mixture substituted for cold water to the head. The inability to swallow prevented the administration of other medicines."

“ She continued in a comatose state until seven o’clock, sixty-three hours after delivery, and thirty-eight after seizure, when death took place.”

A fact perhaps more convincing than any, of the danger that must accompany the administration of the vapour of ether or chloroform in midwifery, has been proved by the exhibition of them in cases of epilepsy, with the hope of their acting sedatively, but in every instance with the reverse effect. In tetanus, generally, it has at once increased the spasm, and in one or two cases, although at first it seemed to allay the convulsions, it evidently caused the death of the patients much more rapidly than if there had been no interference with the disease, perhaps a happy effect under the circumstances, but certainly not the desired one.

Professor Piorry, of Paris, had used these agents, having the same estimation of their sedative effects, in cases of hysteria; but “ the fits, instead of being modified for the better, were, on the contrary, rendered more intense, epileptiform phenomena having been induced.”

That one of the direct effects of ether and chloroform is to produce epilepsy and convulsions, is rendered evident by a very clever application of them as a means of detecting simulated disease, made by M. Fix, a surgeon in the French army, who has reported the experience of himself and others.

He says, “ In a true epileptic, *a fit may at any time be brought on by means of chloroform.*” “ In simulated epilepsy, this agent produces only its anæsthenic and relaxing effects.” “ That ether or chloroform inhalations, administered during the fit, singularly augment its duration and intensity.”

“ From a series of experiments made at the Bicêtre, it has been demonstrated, that by ether inhalations a fit of epilepsy may be *induced at will* in those liable to them, “ and *that chloroform brings it on still more rapidly.*”

I fear a further relation of instances and evidences of the convulsive effects of the agents under consideration would be considered tedious; but they are numberless—those related require no argument to be added to the fact which they themselves demonstrate, that all persons who, during parturition, inhale these vapours, if not actually attacked by convulsions, are in all

cases on the very verge of their approach, their fatal tendency, and the liability of all women to them, whether they be plethoric, or the contrary, render the use of etherization during pregnancy in all instances dangerous.

A pregnant or parturient woman is placed exactly in the same state as concerns a predisposition to puerperal convulsions, and the liability to their occurrence under the use of chloroform, as is the epileptic person to a repetition of his disease from the use of the same agent ; and this fact is in no way weakened from the circumstance, that convulsions do not occur in all cases in which it is employed. On account of this tendency alone, therefore, of the third degree of narcotism to produce convulsions and epilepsy, I would argue that we ought not to induce it in midwifery.

We next have to consider the fourth degree of narcotism, a state which it is essential to induce previously to an operation, in order that the pain attending it may be allayed.

As regards preventing the pain of parturition, it has been asserted, in order to captivate those women who fear to be placed in so helpless a condition as the fourth degree, that it is not necessary to carry inhalation so far ; that a slight effect is only required, in order to do away with labour-pain ; and some have gone so far as to assert that the functions of the brain may be left uninterfered with : to this it is possible to give a distinct contradiction.

Dr. Snow has stated : “ In full four-fifths of the cases in which he had administered the ether, there was not the least flinch or groan during the cutting by the surgeon’s knife ; he considered cases of this kind the only truly successful ones, and believed that with proper care every case might be of this nature. When the patient exhibited signs of pain, although he might have no knowledge of it afterwards, the ether was only partially successful—a large number of the so-called successful cases were of this nature. “ Cries and struggles could not depend upon the reflex function—the patient felt pain, he had sensation with little or no consciousness, and consequently no memory of pain, as memory was the continuation or repetition of consciousness, or of knowledge, and not of simple sensation.” And again he says :*

* *Lancet*, No. viii. 1848.

“Some cases have indeed been met with, in which it is stated that patients felt no pain, although they had never lost their consciousness. I have never seen any such case. I do not, however, deny the possibility of it; but I am inclined to think it a mistake, and to believe that in these cases the patients had been unconscious without knowing they had been so, and had recovered their consciousness while still inhaling.” He adds that, “Patients on recovering after a long operation, often assert that they are not yet insensible, until they find proof of their error.” It is then Dr. Snow’s opinion, that if the inhalation of ether or chloroform is to produce insensibility to pain, the state of *coma must be induced* or the advantages gained are of comparatively little value; and indeed, in many cases which have fallen under my own observation, it has been evident that severe suffering was undergone, although the power to express it was nearly, but not completely, destroyed; in the case, however, of a gentleman for whom a tooth was extracted, during a partial state of insensibility, this was clearly made evident, the difference between his case and others being, that he afterwards recollected the pain and the several sensations accompanying this operation. He described the state as frightful; he was conscious of what was being done; he felt the pain, but he was unable to call out or resist, and he would much have preferred the pain of extracting the tooth twice over than have experienced the suffering that he described.

The question at once arises, is it possible that a partial degree of narcotism only, can prevent the pain incidental to labour, while nothing short of the fourth degree will render painless the cutting of the surgeon’s knife?—undoubtedly not, if there is suffering from the latter in any state except that of the fourth degree—the former will also be felt unless that degree is perfected.

Now the fourth degree of narcotism is nothing more nor less than coma; whether this insensibility is the result of inhaling the noxious vapours of drains—whether it is symptomatic of apoplexy—whether the effect of poisons taken into the stomach—or whether it arises from the inhalation of ether or chloroform, still in all instances the symptoms are those of coma. In comparing the effects of narcotic poisons, the coma produced by them, and that described by Dr. Snow as the fourth degree of

narcotism by ether or chloroform, their similarity will at once be acknowledged.

I have been careful to call attention to this fact, in order to show that the coma of etherization is not simply a "snoring sleep," as it has been intended to infer, nor is it a peculiar condition only met with in persons under the influence of ether or chloroform inhalation, but it is direct coma, and being so, those in whom it is present are rendered liable to the effects of that state which the most strenuous adherent to the system of etherization will admit, cannot be lightly considered under any circumstances, but especially when present with pregnancy or parturition.

The following case, recorded by Dr. Bigelow, as he says, "For the purpose of illustrating the probable character of accidents," gives evidence of the near approach to death of this state of coma. "A young man was made to inhale the vapour while an operation of limited extent, but somewhat protracted duration, was performed upon the tissues near the eye; after a good deal of coughing, the patient succeeded in inhaling the vapour, and fell asleep at the end of about ten minutes; during the succeeding two minutes the first incision was made, and the patient awoke, but unconscious of pain; desiring to be again inebriated, the tube was placed in his mouth, and retained there about twenty-five minutes, the patient being apparently half affected, but, as he subsequently stated, unconscious. Respiration was performed partly through the tube partly with the mouth open; thirty-five minutes had now elapsed, when I found the pulse suddenly diminishing in force, so much so, that I suggested the propriety of desisting; the pulse continued decreasing in force, and from 120 had fallen to 96; the respiration was very slow, the hands very cold, and the patient insensible; attention was now, of course, directed to the return of respiration and circulation; cold effusions, as directed for poisoning with alcohol, were applied to the head, the ears were syringed, and ammonia presented to the nostrils, and administered internally; for fifteen minutes the symptoms remained stationary, when it was proposed to use active exercise as in a case of narcotism from opium; being lifted to his feet, the patient soon made an effort to use his limbs, and the pulse became more full, but again decreased in the

sitting posture, and it was only after being compelled to walk during half-an-hour that the patient was able to lift his head. Complete consciousness returned only at the expiration of an hour. In this case the blood was flowing from the head, and rendered additional loss of blood unnecessary; indeed, the probable hæmorrhage was previously relied on as salutary in its tendency."

Had such effects occurred during parturition, fatal consequences undoubtedly would have ensued. The existing predisposition to cerebral congestion, and the absence of the immediate relief afforded by the already bleeding vessels, would have rendered the symptoms much more severe, and the impossibility of employing the exercise and other active means for recovery would have rendered the case hopeless.

Although at present no death has been recorded as arising from the extravasation of blood within the cranium, the effect of inhalation of ether, yet the comatose state arising from etherization so exactly resembles that of apoplexy, that it is impossible to overlook the liability to that disease in persons made comatose by ether or chloroform. Dr Gregory,* in writing on apoplexy, says, "The abolition of sense and voluntary motion constitute perfect coma." Dr. Thomas† says, "This disease (apoplexy) consists in a sudden diminution or abolition of all the senses, external and internal, and of all voluntary motion, while at the same time the heart and lungs continue to perform their functions." It will be remembered that the fourth degree of etherization is thus described by Dr. Snow: "No movement obvious except that of respiration, which is unaffected by external impressions, and goes on regularly though often with snoring and some degree of stertor." It is not, therefore, possible to conceive anything so nearly bordering on destruction to life, as this state of congestion and coma. If persons were first made acquainted with their danger, they would not, I venture to predict, subject themselves to their influence for the mere purpose of avoiding the pain of tooth extraction, nor even parturient suffering.

We have a frightful example of the near approach of apoplexy in a case recorded by Baron Dubois. He says, "The process of

* Theory and Practice of Medicine.

† Modern Practice of Physic.

inhaling was now and then interrupted by the woman becoming unmanageable during the moment of contraction (uterine); it lasted in all twenty-five minutes, after which she collapsed into a state of complete insensibility." Here was established the state of coma previously alluded to.

Baron Dubois proceeds;—"At this period we witnessed a most curious, instructive, though highly perplexing, phenomenon. Ruptures of blood to the head, the face becoming intensely red, the looks were set, the eyes being fixed upwards and outwards, *the conjunctiva was congested to that degree, that I really could imagine blood on the point of springing from its surface.* The under lip was hanging, the tongue turgid, and squamous saliva issued forth from the mouth."

Who would not shudder at finding symptoms such as these supervene upon his interference with nature, in order to save bodily suffering incidental to natural causes? No one who reads this frightful description of the case, can feel otherwise than aware that the utmost limit of distension was at this moment exercised upon the cerebral blood vessels, that, in fact, their rupture, and the occurrence of true apoplexy, were on the very point of destroying the patient.

This effect, it should be known, was not anticipated by Baron Dubois. He had no reason to suppose that in this patient the effect of ether would be so excessive. By this case alone, if none others could be instanced, it becomes evident that any women to whom it may be administered, may be subject to death by apoplexy in so short a space of time as three minutes, which was the exact interval between the commencement of inhalation and the occurrence of the symptoms alluded to. But if, as we are able to do with many extremely poisonous, but highly useful drugs, we could administer the vapour of ether and chloroform to the utmost limit short of producing death, that is, to the fourth degree, and be quite certain that its effect would not proceed further, the danger of fatal consequences would be greatly lessened; this, however, experience proves to be impossible; in truth, the results of inhalation are totally uncertain, and no rules have as yet been laid down, by which any exact knowledge as to their effects can be obtained,—indeed, there is at present no certainty with regard to them. In one case, a few drops of chloroform were

sufficient to prolong insensibility ; in another, “ the handkerchief was moistened often ;” in one, according to Dr. Simpson, the anæsthetic state was continued for thirteen hours, in another, death resulted in three minutes. In this case, one drachm of chloroform destroyed life, in another, “ fourteen fluid ounces ” were inhaled with impunity. A person ought, therefore, to be fully prepared for fatal consequences before she submits to inhalation ; many, however, are there, who are never cautioned, who hear nothing of untoward effects, but who are assured by the most strenuous arguments, the most fascinating promises, the most powerful assurances that everything advantageous, and nothing detrimental, can possibly accrue from inhalation. Is there, I venture to inquire, any distinction between the conduct of a man who wilfully conceals from a patient that by inhaling ether or chloroform, she is on the very verge of destruction, and to gratify his personal desire for notoriety or aggrandizement, at once places her in the fourth degree of narcotism, only one degree from death, and of another who leads a person blindfold to the extreme edge of a precipice, and leaves her there without having warned her of her danger ? In either case even the very slightest progression might be instantaneously fatal.

It is said by Dr. Simpson, “ Whatever means or mode of etherization is adopted, the most important of the conditions required for procuring a satisfactory and successful result from its employment in surgery, consists in obstinately determining to avoid the commencement of the operation itself, and never venturing to apply the knife until the patient is under the full influence of the ether vapour, *and thoroughly and indubitably soporized by it.*” The latter words are printed in italics in Dr. Simpson’s paper. It necessarily must be inferred that inhalation is to be continued until this state supervenes, when it is employed in parturition, before there would be immunity from labour pain, and in all the cases related by Dr. Simpson, he states the patients slept soundly, “ two were in a perfectly unconscious and apathetic state during the operation (forceps) and for some time afterwards.” One “ slept on soundly throughout the day.” Another “ lay as usual like a person soundly asleep under it.”

In giving directions for the use of chloroform, Dr. Simpson

says, "one or two teaspoonfuls should be at once placed upon the hollow of a handkerchief, and immediately held to the face of the patient, and generally a snoring sleep speedily supervenes." And yet it is asserted, that complete coma or the fourth degree need not be induced in order to prevent the suffering incidental to uterine action. But Dr. Snow most justly observes, "What he is pleased to call a snoring sleep, I should denominate the fourth degree of narcotism, which is separated only by one degree from a total cessation of respiration."

Now there is a peculiarity belonging to the anæsthetic agents in general use, which, according to Dr. Snow, is much more forcibly marked in chloroform than ether. He calls it a "cumulative" property; a person, for instance, may inhale a drachm of chloroform, and no altered sensation will at first be the result, but after a certain length of time, complete insensibility may supervene, although no more of the fluid has been inhaled; and thus, again, we have a source of danger, for it might be the case that half a drachm of the fluid inhaled, would in some persons be sufficient to produce all the required insensibility to pain, that the brain and spinal marrow may be paralyzed by it to the extent of the fourth degree of narcotism, and that the inhalation of more than the half drachm would go beyond the fourth degree, and would paralyze the medulla oblongata, producing the fifth degree, or death. Now it is evident from the facts stated in a former page, that some persons are affected much more readily than others, and that a quantity of the fluid which could scarcely produce any altered condition in one person, would cause death in another. Let it be supposed, then, that a person who is readily influenced inhales chloroform; a drachm or more is inhaled, and no effects are produced at first, but in a few seconds, without further inhalation, the results are apparent, and now the patient becomes insensible: she arrives at the fourth stage; half the quantity she has inhaled has been sufficient to produce complete insensibility, but she has inhaled as much again as is required,—can it be re-taken from her? Is there any antidote at hand? No, in a few minutes the cumulative effects of the whole quantity have developed themselves, respiration has ceased, and the patient is no more. This has absolutely occurred.

In considering this property of chloroform, it is impossible to pass over the direction given by Dr. Simpson, that "one or two teaspoonfuls should be placed on a handkerchief," without noticing the extreme vagueness in giving directions for the use of an agent so uncertain and so powerful, and yet, after having given this loose recommendation, he has thought it necessary, at the eleventh hour, and not until casualties have resulted, to recommend the employment of most active means for the restoration of persons poisoned by etherization.

Mr. Brande, in his lecture on the vapours of ether and chloroform at the Royal Institution, in relating the five degrees of narcotism, said, that the fifth had been induced in the lower animals, but not in the human subject—it was that of death. Mr. Brande, as far as was then known, was able to make this statement; there is a question, however, whether even at that time deaths had not occurred which were studiously concealed from the public. Now so many melancholy results have followed etherization, that the fifth degree has been fully exemplified in the human subject as well as in the lower animals.

It has already been stated that the congested state of vessels first influences the brain, then the spinal cord, and to complete the fifth degree, the medulla oblongata is in like manner acted upon; and as this is the point directly supplying (if it may be so called) the nerves of respiration, its paralysis by pressure at once renders powerless the muscles called into action for this purpose, and death from asphyxia is the consequence.

Paralysis, as well as being the cause of death, is an effect of etherization not at all unfrequently met with in a more partial way. A lady, who was etherized for the extraction of a tooth, lost the use of her arm, and if she has now recovered it, she did not do so for many weeks afterwards. A poor woman, who was made to inhale chloroform to avoid the pain attendant upon the removal of a retained placenta, had also an arm paralyzed; but in this case much pain was nevertheless suffered, and she herself had no desire to have been etherized. One patient had his hand paralyzed, and another his leg. These cases evidently were caused by partial pressure, and although probably no ill effect will eventually be experienced, they nevertheless show the uncertainty of the action of ether-vapour, and that etherization is

not to be considered (as it has been by authors) trivial in its effects, nor free from very many after consequences, as yet but imperfectly known.

The following case is illustrative of the fifth degree of narcotism ; it also exemplifies the cumulative effects of the vapour of chloroform, as described by Dr. Snow, and is interesting, as showing many circumstances regarding death from inhalation, both in respect to the mode of its occurrence, and as indicating forcibly that my arguments in favour of danger resulting from it are not without direct evidence of their truth.

Hannah Greener was a patient under the care of Mr. Meggison, of Winlaton, about five miles from Newcastle ; she inhaled about a teaspoonful of chloroform, in order to avoid the pain attending the removal of a toe-nail. Mr. Meggison's evidence, at the coroner's inquest held upon her, proved that after she had drawn her breath twice, she pulled down his hand in which he held a cloth containing the chloroform ; he then told her to breathe naturally, which she did, and in half a minute her arm became rigid, and her breathing a little quickened, but not stertorous ; her pulse was at this time natural ; an incision was made, and she gave a struggle or jerk when it was done, and Mr. Meggison, thinking more chloroform was required, was proceeding to place some on the cloth, when her lips became blanched, and " she spluttered at the mouth like one in epilepsy." Cold water and brandy were given to her, a teaspoonful of the latter, which she swallowed, and " in a minute more she ceased to live." The post-mortem appearances indicated asphyxia, of which she in fact died. The jury returned a verdict of " Died from congestion of the lungs from the effect of chloroform," and a more just verdict never probably was returned. It was esteemed so by all who considered the subject ; it was evident that the inhalation of chloroform and no other agent caused the death, and no doubt concerning it was entertained or expressed by any persons, with only one exception.

This was a case so militating against the use of etherization, that great efforts were made to persuade the public—to impress the medical profession with the belief was out of the question—that the patient did not die from the effect of chloroform, but from the teaspoonful of brandy that was given to her ; that she

died from asphyxia, the effect of choking with the brandy, and arguments were used to show the difference between death from this cause and death from chloroform ; it has, however, been found by experiments tried on the lower animals, that the appearances after death, the effect of the inhalation of chloroform were the same as those found in Hannah Greener ; and in the case of a druggist's assistant at Aberdeen, who died from a similar cause, there were the same post-mortem appearances.

This attempt to throw discredit on the verdict of the jury gave rise to experiments upon animals, some of whom were killed by drowning, some by strangulation and suffocation, and others by chloroform ; and it was proved that the distinctions attempted to be made between the post-mortem appearances in the one case and those in the others were utterly fallacious.

Let the case of Arthur Walker be next considered. His age was nineteen, and he was employed by Souter and Shepherd, druggists, at Aberdeen, and he had been frequently in the habit of inhaling chloroform, for the sake of its intoxicating effects ; he had been reprimanded for this, and had ceased to inhale it for some little time ; but having occasion to supply some to a customer, he could not refrain from recurring to his former practice, and after a little while he laid his head on a table apparently asleep. A lad who was with him was pleased to witness this result, because, in other instances, the young man had been made furious by the inhalation ; but after a time, owing to his not recovering, his father was called, and upon attempting to move him, he was found to be dead. The post-mortem appearances were exactly the same as those found in the body of the girl at Newcastle ; it will not, however, be credited that it was argued that this case was not one of death from chloroform, but that the face of the lad had fallen on a wet towel, and he had thus been suffocated. Will any reasonable person believe that a wet towel was so completely adherent to the mouth and nostrils, and that it had accidentally become so, as to cause suffocation, any more than they will believe that the girl Hannah Greener was killed by a teaspoonful of brandy, and not by the inhalation of chloroform ; a conclusion might be drawn, if there were no other proofs, as to the real cause of these deaths from the fact of such far-fetched reasons being brought forward to account for them.

Here, then, are related two deaths from etherization, both showing clearly how impossible it is to know when to stop the inhalation, and both indicating the extreme uncertainty of the effects of anæsthetic agents; a drachm only was necessary to destroy the life of the one, and she had before inhaled the same quantity without very bad results, and in the other three or four drachms were sufficient to cause death, without, as in former times, inducing previously the exhilarating effects.

But there were morbid appearances also found in the body of Arthur Walker, that render its examination highly interesting, and present features that call for especial notice, as raising the question concerning the after-effect of etherization; and whether or not those who have for many hours been subjected to it, or even those who have been only for a short time under its influence, may not eventually be SUFFERERS from it—nay more, whether their lives may not be shortened in consequence of its latent effects.

Dr. Jamieson, who examined the body of Arthur Walker, in his report, says: “Lungs turgid, loaded with dark blood, and *extensively adherent to the walls*” of the chest, and the “*heart extensively adherent to the pericardium.*” “*The walls of the right ventricle thin, cavity enlarged.*” That we find these appearances in individuals not unfrequently it will be allowed; but the combination of them in a person habitually a drunkard, through the effects of etherization, at once gives rise to the suggestion that they have arisen from this cause. There was also some effusion into the ventricles of the brain.

Is there any argument to offer against these adhesions being the effect primarily of venous congestion, and in consequence of increased action in the arterial capillaries, and deposit of lymph? If not, it is impossible to be certain that those who, for “thirteen hours” and more, have inhaled ether or chloroform, have not at this moment similar morbid adhesions.

It has been asserted by writers who favour the use of etherization, that a shock is saved to the system during parturition, by the use of anæsthetic agents; but it has been most clearly shown, that the act of etherization is a shock in itself; and some cases, which will presently be related, go distinctly to prove this; and that death has resulted from the shock thus produced.

That paralysing the functions of the brain does not prevent a shock to the system, is made manifest by the fact, that a frog, from whom the entire brain had been removed, was rendered motionless, and, as if dead, with cessation of the heart's action, and suspension of the reflex function, for some time, owing to the crushing of its thigh by a blow with a hammer. A man, when shot, falls instantly, although he feels nothing, and does not know he is shot, because the spinal marrow, and not the brain, has received the shock.

It is thus proved that there is no freedom from the liability to shock, if only the brain is influenced by etherization. The spinal cord must be paralysed, or the shock will not be prevented ; and in order that this may be affected, the fourth degree of narcotism must be induced.

I do not, however, myself believe that any fatal shock happens to the system from the simple effect of natural labour. That instrumental delivery may, in some instances, produce it, I will not deny ; but I am led to think that any direct depression which causes death after labour, is much more often to be attributed to improper delay in effecting delivery in protracted labour, than to any other circumstance.

It has been stated by Dr. Tyler Smith, that etherization is a distinct and direct agent of shock, and we have evidence of its being so in the following case :—

A Mrs. Parkinson, of Grantham, aged 21 years, the wife of a hair-dresser, was operated upon for the removal of a tumour from the thigh. At one o'clock p.m. on a Tuesday, she was subjected to the vapour of ether, and the operation was performed in the presence of several medical men besides the operator. The poor woman never rallied, but remained in a state of complete prostration until five o'clock on Thursday, when she died. She drank a little brandy and water when put to bed. Not much blood was lost ; and after the wound was dressed and bandaged, and she had been put to bed, she appeared conscious ; she took some gruel, and said she felt better, but in a low and faint voice. She did not appear to rally at all from that time. On the following day, she remained in the same state, taking a little gruel and tea ; and on Wednesday, she complained of a numbness in both legs and the lower part of the back, and hot bottles were applied ; but

she was not relieved, and died on Thursday without uttering a groan.

The coroner's jury returned a verdict, that she died "from the effects of the vapour of ether inhaled for the purpose of alleviating the pain during the removal of a tumour from the left thigh, and not from the effect of the operation or any other cause."

Is there a doubt that this woman died from the shock incidental to the inhalation of ether? The same thing happens after the inhalation of the noxious vapours of drains: a partial recovery often ensues, but, eventually, death results; and this is also witnessed in persons who have been nearly drowned; a young man threw himself into the Serpentine river, he was taken out of the water, and seemed to rally to a certain point, and then, rather rapidly, died, three days after his immersion.

A case at Colchester confirms the same fact. On Friday, the 12th of March, Thomas H——, aged 52, was operated upon for stone in the bladder, in the presence of most of the medical men of the town and neighbourhood. The ether was administered, and after about eight minutes, the effect of it seemed complete, and the operation was commenced. The breathing "first became heavy, and then stertorous." He recovered from its effects, however, after a short time, and continued in a quiet passive state, but without decided reaction, for twenty-four hours, when he had a severe chill. He was upheld by stimulants and nourishment, but at eight o'clock p.m. a complete state of collapse ensued. Every attention to warmth, nourishment, stimulants, &c., was paid, until nine o'clock on the following morning. The patient appeared incoherent from eight o'clock p.m. on Saturday, till nine a.m. of the following day, when symptoms of slight reaction appeared. The heart's action was increased a little by the remedies used; but the nervous energies were not excited, and he gradually sank, and died at five p.m., being sensible to the last.

This case clearly exemplifies direct depression, and Mr. Nunn observes, the post-mortem appearances gave "no evidence of nature having made the slightest effort towards local reparation."

To Mr. Nunn, who related the case, are due the thanks of the profession for the way in which he at once published the facts as

a warning to others. His conduct is a great contrast to that of those who make a point of concealing the casualties that may occur to patients under their hands.

The effect of shock was also marked in the melancholy death of a young lady who was delivered of her first child within a year of her marriage. She never rallied from the effects of the vapour of chloroform; but although nature made great efforts for many days after parturition, she sank exhausted, and died.

As usual when a death occurs from these agents, it is attributed to other causes; and so in this case, consumption was said to have caused death. The truth of this assertion, however, may be tested by the fact, that she had no symptoms of this disease previously to her confinement; and then puerperal fever was said to have caused a fatal termination; but there was an absence of any symptoms indicating this complaint: in fact, it was a direct case of shock from chloroform, from which she never rallied.

Other FATAL cases could be recorded, but the argument against the employment of etherization in midwifery would not be strengthened by a repetition of them. In a recent number of a medical journal, it was stated that a death had lately occurred, owing to inhalation of chloroform; but that, upon inquiry, those concerned declined to make any statement regarding it.

Innumerable instances could be mentioned of the effect of the shock attending the inhalation of chloroform, which, although threatening life, did not actually prove fatal. A young lady was etherized to avoid the pain incidental to the extraction of a tooth. It was difficult to restore her to life; and for many hours afterwards, medical attendance was constantly necessary at her bedside to prevent depression and death. Two such instances have come to my own knowledge. In other cases, persons having been in good health before, have become enfeebled and depressed to an extent sufficient to baffle for a time all ordinary modes of treatment; and I have known others whose constitutions are broken in consequence of etherization, actually held up as examples of its good effects; and because they were delivered with but little pain, every praise has been bestowed upon etherization, and no regard whatever paid to the effects produced, and the havoc made upon the system. If those very few persons of better life who have been subjected to inhalation during labour, only knew to

what extent their names are published, to captivate other people, they would not, I conceive, be much pleased with the fact.

In the foregoing pages, have been noticed only the casualties that were the immediate effect of etherization. There are others which appear more remote, but which I verily believe are derived equally from the same cause. The arguments, however, in these instances are not as strong and as unanswerable as those brought forward in other cases, because they become matters of opinion and theory, and are not proved as those were by absolute facts. I allude to the occurrence of puerperal fever, mania, and other diseases, occurring in those women who have been subjected to the effect of anæsthetic agents.

That the low typhoid condition often accompanying acute inflammation of the uterus, may be derived from the influence of these agents in producing congestion in the uterine veins, and thus causing resistance to the flow of blood, and, in consequence, increased action in the arterial capillaries, I think will be allowed. At all events, the supposition is one that ought to do away with the impression in the minds of many practitioners, that patients did not die owing to the use of etherization, because they had symptoms of puerperal fever, a disease I should not hesitate to accuse myself of having induced, had any patient of my own been lost from it after having inhaled the vapour of ether.

Baron Dubois relates five cases of labour in which he etherized the patients. Two out of the five died. These two had been delivered with the forceps. The application was "prompt and easy;" and, in the hands of Baron Dubois, there can be no reason to suppose the use of instruments had occasioned death. May not the conclusion, therefore, be drawn, that these deaths are attributable, in a very great degree, to the use of the vapour of ether; and knowing how absent, in the majority of instances, is any danger to the mother or child in the proper application of the short forceps, I am induced to attribute the deaths greatly to the use of ether, but partly, perhaps, to the duration of the labour, which was improperly allowed to extend, in one instance, to the completion of thirty-eight hours—in the other, forty.

It is worthy of notice, however, that two out of five etherized patients died of symptoms indicating the existence of puerperal fever; and Baron Dubois says with regard to them, "In a ques-

tion of so serious a nature, the recollection of those facts must still leave on my mind doubt and timidity." Later, perhaps, these hesitations may disappear; but even then I shall not forbear thinking that the very nature of things will tend to render very uncommon the adhibition of ether in cases of midwifery. First of all, it is evident that inhalation of ether can never produce a painless labour from beginning to end; it is to be doubted whether insensibility could be made to last long enough for such a result: it is more doubtful still whether such a thing could be tried without running positive danger, *and without being liable to the charge of guilty temerity*. Baron Dubois adds,—“ My profound feeling on the subject is, that inhalation of ether in midwifery should be restrained to a very limited number of cases.”

As yet I have not referred to the effect that etherization may have on the foetus in utero, and on the infant after birth; there are, however, many reasons for supposing that much injury may arise to the offspring, and no evidence, either theoretical or practical, has as yet gone to prove the contrary.

It is admitted by all that the pulsations of the foetal heart are greatly increased during inhalation—indeed, to such an extent has this been noticed, that in some instances the pulsations could not be counted, so much were they accelerated. Are not effusions to be feared from this? are not convulsions after birth likely to ensue? and may not that occur which would make the most heartless mother shudder at the bare possibility of herself, by her want of courage, being instrumental in producing? may not idiocy supervene? Of this we have as yet no experience, nor shall we have, perhaps, for years; but when one such case occurs, will there then be found any one who will afterwards be persuaded to submit herself to etherization during pregnancy? I have witnessed the death of a child within a few hours after its birth, born while the mother was under the influence of ether, and in that child the pericardium was filled with serum; and I have good reason to suppose that this effusion was the direct effect of ether in increasing the heart's action while in utero.

There was no difficulty in its expulsion; the child was full

grown and healthy ; some difficulty was experienced in establishing respiration, which was not accounted for by any circumstance whatever as regarded the presentation or the duration of the labour, which was short ; but at length both respiration and circulation were to a certain extent established ; the child, however, constantly cried as if in pain ; after a few hours its cries became more feeble, its lips were livid, its extremities cold, and the heart's action weak, the muscles of the face being partially convulsed, and it ultimately died ; there were no morbid appearances, with the exception of the pericardium being filled with serum.

The advantages stated to be gained from etherization during parturition are five.

1st. It prevents the pain of natural labour and that attending artificial delivery.

But it retards delivery, and by taking from the woman the power of voluntary effort, and thus leaving the uterus alone to expel the foetus, which it is in some cases unable to do, it renders instrumental delivery necessary in cases which, had not there been interference, would have terminated by the natural efforts.

I have myself been called upon to deliver with the forceps under these very circumstances ; and a case lately occurred in which the progress of the labour was completely arrested during the lengthened administration of chloroform, but which was terminated within a few minutes upon this agent being removed ; the voluntary power was restored, and the child was quickly expelled.

2nd. That although it prevents pain, it does not suspend the uterine action.

But in paralysing the efforts of the abdominal muscles, it gives no additional power to the uterus to make up for the loss of assistance by these muscles ; it is, however, said by the advocates of anæsthesia to relax uterine contraction when turning is necessary ; the inconsistency is manifest, therefore, when the same persons say that if increased pain is required, it is immediately induced by etherization.

3rd. That it does not impede the action of the abdominal muscles.

Certainly it does not, unless complete narcotism is induced, and if this state is not completed, there is no immunity from pain.

4th. That the resistance offered to the foetal head by the perineum is lessened by the use of inhalation.

But where are the cases met with in which the resistance of the soft parts forms any great impediment, if others do not stand in the way?

5th. That the inhalation of ether does not exert any bad influence over the life or health of the child.

I refer to a former page, in order to show that there is reason to suppose this is utterly fallacious; but, as has before been remarked, time alone will show whether idiocy may not follow in the children born while the mother is in a state of etherization.

The conclusion to be drawn is simply this, that the prevention of pain, and that alone, is the advantage gained by etherization in midwifery.

I am assured by those in the largest practice in London, that they are scarcely ever asked to employ anæsthesia in midwifery, and my own experience certainly goes to prove that there is a feeling against it in the educated classes of society. I do not intend to deny that there are some persons who seek the use of it, but I believe that in but few instances it is sought by any except those persons who are studiously kept in ignorance of the dangers attending it. The births "under chloroform" have formed a source of much amusement, not only to persons in general, but to the profession, as evidencing what is too truly the case, that there is nothing, whether good or bad, that will not be seized upon as a medium for advertising and agitating purposes.

A primary and universal effect of anæsthetic agents has, however, still to be noticed; and if the facts recorded in the former pages militated not against its use in midwifery, this would at once convince an unbiassed reasoner of the danger, the imminent danger, that attends the induction of anæsthesia during parturition. I allude to the vascular congestion that always accompanies etherization. Each degree is progressively induced by a gradually increasing congested state of blood-vessels.

In the thirty-eight instances of death from ether and chloroform, out of the one hundred experiments cleverly made by Mr. Wakley, surgeon to the Free Hospital, on various animals, “the blood, almost black, had collected in the heart and lungs and great vessels connected with these organs to a degree of intensity which was probable never surpassed.” “Anything of the kind more striking probably never was witnessed in post-mortem examinations.”

In the girl Hannah Greener, who died from the direct effects of inhalation of chloroform, “the heart contained dark fluid blood,” “the lungs were in a very high state of congestion,” and there was a congested state of the brain, kidneys, liver, and spleen.

In the lad Arthur Walter, the druggist’s assistant, the same appearances presented themselves; and, indeed, in all whose bodies have been examined after death by chloroform, this state was brought prominently into view; in a less exaggerated degree, however, if a longer interval had elapsed between inhalation and death.

Congestion of the lungs of a horse, the subject of an experiment by Mr. Henderson and Mr. Cherry, members of the Royal Veterinary College, had become so excessive, that the heart and diaphragm were ruptured; the pericardium was filled with black blood, the lungs were also turgid with the same fluid; and the melancholy death of a member of the medical profession, Dr. Anderson, of Birkenhead, has been recorded, which arose from pulmonary congestion, the effect of the inhalation of chloroform. Two days after the inhalation, which was employed for the purpose of relieving the pain attending the extraction of a tooth, his lungs became suddenly engorged, causing almost instant suffocation.

Considering the almost constant predisposition that exists in pregnant women to congestion—considering that congestion is the direct cause of puerperal convulsions—considering the very many sequels to congestion under any circumstance to which persons are liable, but especially so when pregnant,—I assert, without the fear of contradiction, from those bound by the moral and legitimate laws of the practice of medicine, that the exhibi-

tion of ether-vapour in parturition is an act at once unjustifiable, and I question whether it will not before long be considered criminal according to law.

And yet, without waiting to inquire what are the disadvantages, what the dangers, attending etherization, because it is said to relieve pain in labour, some women are found who yield to the false promises made to them, and seek for its use ; and let them do so if they please, but do not let them any longer urge their friends to commit themselves to its baneful influence ; for they should know that fatal consequences have ensued from the use of chloroform during parturition, its use having been sought exclusively owing to the urgent recommendations of near relatives ; the feelings of these persons, under the circumstances, may be readily imagined.

But I have heard of the use of etherization being promoted amongst the poor by certain over-jealous advocates of it, (not professional men ;) I would venture to warn such persons to be careful of their commendations ; if fatal consequences ensue, they might escape from the legal responsibility of the verdict of a coroner's jury against them, but I am induced to think their names would stand prominently forward in any censure that might be added to it, and taking a moral view of the case, their consciences could not be afterwards envied.

In concluding these remarks concerning anæsthesia in midwifery, I cannot but confess my knowledge of the imperfections of their arrangement. Other occupations and frequent interruptions will be my excuse for them, as having so often obliged me to postpone my attention to them during very long intervals, in the meantime repeated casualties, and additional evidence of the danger of etherisation, have been brought before me, which, although they would have strengthened my arguments, would have occupied too much space had they all been related. If, however, the real hazards of etherization are in these pages made manifest, my only object is gained. I have no personal motive for remarking on the writings of others ; I can have no personal animosity against men whom I never saw and never communicated with, and in writing concerning them, I must beg them to understand that my intention has been simply to show the errors of their opi-

nions, which, having been given to the public, are open to public criticism.

Since the foregoing pages were written, some extracts have appeared in the "Lancet," from a letter written by Professor Meigs, of Philadelphia, to Dr. Simpson, of Edinburgh, in answer to one received by the former concerning the employment of anæsthetic agents.

This reply was published in the "Philadelphia Medical Examiner," and I have been induced to copy some of the extracts, because they so singularly denote the same views that I have ventured to express.

"In New York," writes Dr. Meigs, "as I learn, the surgical application of chloroform is common, while its obstetrical use has not as yet acquired a general vogue."

"As to its employment in midwifery here, (in Philadelphia,) notwithstanding a few cases have been mentioned and reported, I think it has not yet begun to find favour with accoucheurs.

"I have not exhibited it in any case; nor do I, at present, know of any intention in that way entertained by the leading practitioners of obstetrical medicine and surgery in this city. *I have not yielded to several solicitations as to its exhibition addressed to me by my patients in labour.*"

"If I could believe that *chloroform* insensibility is sleep indeed, the most considerable of my objections would vanish. Chloroform is not a soporific; and I see in the anæsthesia it superinduces a state of the nervous system in nowise differing from the anæsthetic results of alcoholic potations, save in the suddenness and transiency of its influence.

"I freely admit, for I know it, that many thousands of persons are daily subjected to its power. Yet I feel that no law of succession of its action on the several distinct parts of the brain has been or can be hereafter ascertained, seeing that the succession is contingent."

"It appears to me, therefore, quite certain that there is no known law of succession of the ether influences on the several parts of the brain. It is known that the continued aspiration of the vapour brings at last the medulla oblongata fully under its anæsthetic power, and the consequent cessation of respiration, which determines the cessation of the oxygenation of the

blood, and thereby of the brain, is death. M. Flourens's experiments, and others, especially those of the younger Mr. Wakley, of 'THE LANCET,' prove very conclusively that the aspiration of ether or chloroform, continued but a little longer than the period required for hebetizing the hemispheres, the cerebellum, the tubercula quadrigemina, and the cord, overthrows the medulla oblongata, and produces thereby sudden death."

"As to the uses of chloroform in the medical or therapeutical treatment of pain, the question changes."

"I readily hear, before your voice can reach me across the Atlantic, the triumphant reply, that an hundred thousand have taken it without accident! I am a witness that it is attended with alarming accidents, however rarely. But should I exhibit the remedy for pain to a thousand patients in labour, merely to prevent the physiological pain, and for no other motive—and if I should in consequence destroy only one of them, I should feel disposed to clothe me in sackcloth, and cast ashes on my head for the remainder of my days. What sufficient motive have I to risk the life or the death of one in a thousand, in a questionable attempt to abrogate one of the general conditions of man?"

The practice of America, as regards anæsthetic agents especially, deserves much attention; for there, it should be remembered, was their power discovered, and there are they still commonly employed for preventing the pain attending surgical operations; but it is evident that in midwifery they are almost totally discarded.

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